

IN THE CLAIMS

A copy of the claims is enclosed below for the Examiner's convenience.

1. - 24. (Canceled)

25. (Previously Presented) A circuit board, comprising:

a non-conductive layer having a first side;

a conductive layer located on the first side of the non-conductive layer, wherein the conductive layer includes copper patterned into conductive traces; and

a mask layer located on a surface of the conductive layer and laminated onto a region of the first side of the non-conductive layer which is not covered by the conductive layer, the mask layer including a first plurality of openings adapted to expose the non-conductive layer so as to provide ventilation and reduce a tendency the mask to delaminate from the non-conductive layer due to gases between the mask and non-conductive layer, and the mask layer further including a second plurality of openings to expose the copper conductive traces.

26. (Previously Presented) The circuit board of claim 25, wherein a region intermediate the non-conductive layer and the conductive layer accumulates undesirable gases, and wherein the first plurality of openings being positioned over the region.

27. (Previously Presented) The circuit board of claim 26, wherein the second plurality of openings expose regions of both the conductive layer and the non-conductive layer.

28. (Previously Presented) An assembly, comprising:

a circuit board comprising a non-conductive layer and a conductive layer located on top of the non-conductive layer, the conductive layer including copper traces;

a mask attached over the conductive layer and laminated to the non-conductive layer, the mask layer including first openings adapted to expose a top surface of the non-conductive layer

to reduce delamination of mask from the non-conductive layer and second openings adapted to expose areas of the conductive layer; and

an integrated circuit attached to a side of the circuit board opposite the conductive layer.

29. (Previously Presented) The assembly of claim 28, wherein the integrated circuit is a die attached to the circuit board, and wherein the die is encapsulated.

30. (Previously Presented) The assembly of claim 29, wherein the non-conductive layer includes an opening for accessing the die with a conductive connection.

31. (Previously Presented) The assembly of claim 30, wherein the circuit board includes an electrical component mounted such that at least one electrical connection is provided from the electrical component to at least one exposed copper trace.

32. (Previously Presented) The assembly of claim 28, wherein the second openings are patterned to form an array for attaching solder balls to the conductive layer.

33. (Previously Presented) The assembly of claim 32, wherein the first openings are located along outside edges of the circuit board.

34. (Previously Presented) The assembly of claim 28, wherein the first openings are located in a region of the circuit board that accumulates undesirable gas during processing.

35. (Previously Presented) The assembly of claim 34, wherein the second openings expose regions of both the conductive layer and the non-conductive layer.

36. (Previously Presented) An assembly, comprising:

a circuit board having a non-conductive base and a copper trace on top of the base;

a mask laminated onto a region of the base and attached over the copper trace, the mask layer including first openings adapted to expose a top surface of the region and second openings

adapted to partially expose the copper trace, the first openings being adapted to ventilate the region of the base and reduces tendency of delamination; and

an integrated circuit attached to a side of the circuit board opposite the copper trace.

37. (Previously Presented) The assembly of claim 36, wherein the integrated circuit is a die attached to the circuit board and encapsulated.

38. (Previously Presented) The assembly of claim 37, wherein the base includes an opening for accessing the die with a conductive connection.

39. (Previously Presented) The assembly of claim 38, wherein the second openings are patterned to form an array for attaching solder balls to the copper trace.

40. (Previously Presented) The assembly of claim 39, wherein the first openings are generally located along outside edges of the circuit board.

41. (Previously Presented) The assembly of claim 39, wherein the first openings are located in a region of the circuit board that accumulates undesirable gas during processing.

42. (Previously Presented) The assembly of claim 36, wherein the second openings expose regions of both the copper trace and the base.

43. (Previously Presented) An assembly, comprising:

a circuit board having a non-conductive base and a copper trace on top of the base;

a mask laminated onto a region of the base and attached over the copper trace, the mask layer includes a first plurality of openings to expose a top surface of the base and a second plurality of openings to partially expose the copper trace, wherein the first openings are adapted to ventilate the region of the base and to reduce the tendency for delamination of the mask from the region;

an integrated circuit attached to a first side of the circuit board opposite the copper trace;
and

an electrical component mounted on a second side of the circuit board such that at least one electrical connection is provided from the electrical component to the copper trace.

44. (Previously Presented) The assembly of claim 43, wherein the second openings form an array for attaching solder balls to the copper trace.

45. (Previously Presented) The assembly of claim 44, wherein the first openings are generally located along outside edges of the circuit board.

46. (Previously Presented) The assembly of claim 44, wherein the first openings are located in a region of the circuit board that accumulates undesirable gas during processing.

47. (Previously Presented) The assembly of claim 46, wherein the second openings expose regions of both the copper trace and the base.